SYLLABUS

COLUMBIA BASIN COLLEGE

COURSE: GEOL& 101 / 101L **FALL 2009**
COURSE AND TITLE: INTRO PHYSICAL GEOLOGY / LAB
Prepared by Physical Science Department **Math & Science Division**

CATALOG DESCRIPTION

Composition and structure of the earth. Study and identification of common minerals and the three major rock groups. Plate tectonics: concept of the evolution of the surface features of continents. A study of volcanic, seismic, surface and groundwater processes. Outline of geologic development of the Pacific Northwest, including field studies. Lecture and lab must be taken concurrently.

Note: If you took Intro Physical Geology as GEL 101/1011 Physical Geology, it still counts. Credit will only be given for one of the courses (either GEL 101/1011 or GEOL& 101/101L). For a complete listing of affected courses and student FAQs, visit: www.columbiabasin.edu/ccn

CREDITS AND HOURS

Five (5) credits/with lab. You must sign up for both lecture and lab to receive combined lecture and lab credits. No lab credits will show as they are included in the lecture credits.

The student should expect a minimum of 2 hours outside of class or lab time for every hour in the class or lab for homework and study. There will be at least one required field trip.

TEXT (S) AND MATERIALS

Textbooks: Earth Revealed, 8th Edition, Carlson, McGraw Hill
Exercises in Physical Geology, 12th Edition, Hamblin, Prentice-Hall
Materials**:** Colored pencils, protractor, ruler, Safety goggles with a Z87 coding (optional).

GENERAL TEACHING METHODS

Instructional methods are up to the individual instructor and may include:

Lecture

1. Lecture with overhead outline and diagrams.
2. Class discussion-interactive practice for students.
3. Audio-visual aids.
4. Peer interaction.

Laboratory

1. Hands-on studies with mineral and rock samples.
2. Study and analysis of topographic maps.
3. Study and analysis of crustal deformation.
4. One or more of the following: exercises in seismic analysis, geologic time and stream processes.
5. Class discussion-interactive practice for students.
6. Peer interaction.

CBC STUDENT LEARNING OUTCOMES

Students who graduate from Columbia Basin College will have been exposed to the skills, concepts, and methods of inquiry in many different disciplines. The totality of their learning experience is expressed in a set of general student learning outcomes (SLOs), which all students, regardless of program, are expected to demonstrate:

1. Think Critically
2. Reason Quantitatively and Symbolically

3. Communicate Effectively
4. Apply Information Tools and Resources
5. Develop Cultural Awareness
6. Master Program Learning Outcomes

COURSE OUTCOMES
The student will understand the following:

Lecture
1. The internal processes of the earth.
2. The theory and concepts of plate tectonics.
3. The basic concepts of igneous and metamorphic processes.
4. The development of continental surface features.
5. The process of weathering, transport, and sedimentation.
6. The processes of surface water and groundwater systems.
7. The processes of seismic activity.
8. The processes of mass wasting.
9. Local geologic history and landscapes.

Laboratory
1. The properties of minerals.
2. The properties of igneous, sedimentary and metamorphic rocks.
3. Local geologic history and landscapes.
4. Interpreting Topographic Maps.
5. Understanding stream processes.
6. Interpreting structures of the Earth.

PERFORMANCE OUTCOMES
Upon completion of this class students will be able to:

Lecture
1. Explain the internal processes of the earth.
2. Relate the internal processes of the earth to the theory of plate tectonics.
3. Explain the theory and concepts of plate tectonics.
4. Apply the theory of plate tectonics to explain volcanic activity.
5. Explain igneous processes.
6. Apply the concepts of igneous processes to explain the types and formation of igneous earth materials.
7. Explain the processes of weathering.
8. Identify specific weathering processes in the field.
9. Explain the concepts of groundwater systems.
10. Use the concepts of groundwater systems to explain the results of groundwater withdrawal in different types of aquifers.
11. Explain the processes of seismic activity.
12. Apply the theory of plate tectonics to explain seismic activity.
13. Explain local geologic history

Laboratory
1. Identify the common minerals.
2. Identify the more common igneous, sedimentary and metamorphic rocks.
3. Explain the formations of more common igneous, sedimentary and metamorphic rocks.
4. Interpret topographic maps for basic map features, locating objecting, and evaluating surface water processes.

5. Apply laboratory concepts in the field.

SKILLS

Thinking skills:

1. Critical: application and analysis of theory.
2. Creative: design final project/report.
3. Problem Solving: use learned information to draw conclusions in new situations.

Information skills:

1. Computer: use of a computer program and compact disc applications; opportunity to explore geology on the internet.
2. Library: research projects regarding geologic time and local geologic history.
3. Listening: focus on lecture presentations and class discussions.
4. Visual: viewing PowerPoint's, textbook, videos, wall maps, mineral and rock samples.

Communication skills:

1. Reading: comprehension of textbook and research material.
2. Writing: used in producing homework, laboratory and field projects.
3. Verbal: used in class participation and peer interactions.

ASSESSMENT METHODS AND GRADING SCALE

Will be provided by the individual instructor addendum.

Grades will be available to the student after official grades are posted on the KIOSK or if an instructor chooses to let a student know what their grade is face to face. No grades will be sent via email, nor will grades be given over the phone due to student privacy issues.

ATTENDANCE REGULATION Will be provided by the individual instructor addendum.

ACADEMIC DISHONESTY

As members of the Columbia Basin College learning community, students are not to engage in any form of academic dishonesty. Forms of academic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, grade tampering, and misuse of computers and other electronic technology. Students who engage in academic dishonesty may receive an academic penalty or a disciplinary penalty or both. Instances of academic dishonesty may be referred to the Vice President for Student Services in accordance with the Washington Administrative Code (WAC), section 132S-40-165, paragraph 3 (Dishonesty) and the CBC Code of Student Rights and Responsibilities. The disciplinary consequences of engaging in any form of academic dishonesty include reprimand, probation, suspension, and dismissal. A student who knowingly helps or attempts to help another individual to violate the college's policy on academic honesty also may be subject to academic as well as disciplinary penalties. Students are expected to be familiar with CBC policy on academic dishonesty. This is available on-line at: **http://www.columbiabasin.edu/home/index.asp?page=484**

STUDENTS RIGHTS & RESPONSIBILITIES

Rude, belligerent, hostile, demeaning, or disruptive behaviors are violations of the CBC *Code of Student Rights and Responsibilities* and may be referred to the Vice President for Student Services for disciplinary review. Disciplinary sanctions include reprimand, probation, suspension and dismissal.

An instructor may remove a student from the classroom if s/he believes such action is necessary for the physical safety and well-being of the student, or the safety and protection of others on college property, or where the student's conduct materially and substantially disrupts the educational process. The matter also will be referred to the Vice President for Student Services for disciplinary review.

http://www.columbiabasin.edu/home/index.asp?page=485

PRIVACY
Columbia Basin College abides by the Family Educational Rights and Privacy Act (FERPA), a federal law that maintains students' right to the privacy of their academic records. CBC will not release student information or student records to a parent or guardian without the student's written permission. Students who wish to authorize an instructor to provide information to their parent(s), guardian(s), or others, must complete the necessary authorization, which is available in the Office of Admissions and Registration. For more information, go to the website: **http://www.columbiabasin.edu/home/index.asp?page=481**

TUTOR CENTER
The Tutor Center offers CBC students help with their studies for most departments and programs. It is also available to facilitate study groups. The Center is in Room TD 434 (in the Lee R. Thornton Center for Science, Diversity and Technology building) on the Pasco campus. The phone number is (509) 547-0511, extension 2676.
You can reach the Tutor Center on-line at: **http://www.columbiabasin.edu/home/index.asp?page=1373**

STUDENTS REQUIRING SPECIAL ACCOMMODATION
Columbia Basin College provides reasonable accommodations to students with disabilities. Students who need course accommodations because of a disability, have emergency medical information, or need special arrangements in case the building must be evacuated, should notify their instructors as soon as possible. The responsibility for determining a student's eligibility for accommodations rests with the Resource Center, which can be reached at (509) 547-0511, extension 2325 or online
http://www.columbiabasin.edu/home/index.asp?page=2156

WEB MAIL & ELECTRONIC COMMUNICATION GUIDELINES
http://www.columbiabasin.edu/home/index.asp?page=234

CELL PHONES & ELECTRONIC DEVICES
Students are to shut off all cell phones once class is in session so that calls and/or conversations do not disrupt the learning environment for other students. NO lap top computers or ipods in use during class time.